

POST-FLIGHT CHECK

If you get disoriented or the plane gets out of control, simply take your hands off all the controls and allow the plane to stabilize. Clear your head and try to picture yourself sitting in the cockpit. Then input the required control movements to get the plane back on the correct flight path. If you run out of time or flying space and realize the plane is going to hit something (ground, tree, etc), pull the throttle back to idle and pull the elevator stick back about half way. This will reduce the speed of the plane and minimize the damage sustained.

When you are ready to land, do a coupler of slow fly-bys at a safe altitude to get familiar with the plane's slow-flying characteristics. An important factor to remember here is that you should regulate you altitude with the throttle not the elevator as you might expect. Practice raising the nose of plane slightly with a touch of "up" elevator and then using the throttle to regulate the plane's altitude. When you are ready to land, fly downwind past the runway. When the plane is a hundred yards or so downwind, reduce the throttle almost an idle and turn 90 degrees towards the runway. Fly straight for a second or two until the plane is almost even with the runway. Turn 90 degrees again and fly directly toward the runway using the throttle to govern how quickly the plane is descending. Keep the nose of plane up slightly with the elevator and allow the plane to fly gently onto the runway. Do not try to stretch the glide path without increasing the throttle or the plane may stall.

POST-FLIGHT CHECK LIST

1. Be sure that both the transmitter and receiver switches are turned off.
2. Drain all excess fuel from the tank. Fuel left in the tank for extended periods can "gunk up" the tank, fittings and carburetor.
3. Clean the plane with papertowels and a light-duty spray cleanser. Keeping your plane clean will make it last longer and keep it looking nice.
4. Put a few drops of after-run or light oil in the carburetor and turn the prop over a few times (without the glow plug ignited) to distribute the oil throughout the engine.
5. Inspect the prop and replace it if any chips or cracks are found.
6. Inspect the entire plane for covering tears, new dings and dents, loose screws and connect connectors and any other wear and tear.
7. Use a voltmeter to check the receiver battery voltage. If it is low, you now know not to fly so long next time. If it is still high, you should be able to fly a little longer next session.



Tiger Sport

SAFETY PRECAUTIONS

1. Wear safety glasses when starting and running all model engines.
2. Model engine fuel is very flammable and the flame is very dangerous because it is almost invisible! Do not smoke or allow sparks, high heat or other flames near the fuel.
3. Do not run model engines inside garage or other closed room as they give off large amounts of deadly carbon monoxide gas.
4. Do not run model engines around gravel, sand or other loose debris. These materials will be ingested through the carburetor and can also be kicked up by the prop.
5. Always stay behind the propeller when the engine is running. Make all engine adjustments from behind the engine. Under no circumstances should you allow your face or body near the plane on rotation of the propeller when the engine is running.
6. Do not allow loose clothing or other loose objects close to the prop.
7. To stop an engine, cut off the fuel or air supply to the engine. Do not throw rags or other objects into the prop to stop the engine.
8. Do not touch the engine or muffler during or right after it has been running-It gets very hot!
9. If you hear any unusual noises while your plane is flying, land at once and determine the problem before returning to the air. Control surface flutter, which often emits a low-pitched Buzz, can quickly destroy an airplane and should not be ignored. Flutter is usually caused by sloppy control surfaces and is generally relatively easy to cure.



Tiger Sport 40L *Almost Ready To Fly*

Assembly Instructions



Warranty

Thunder Tiger Corp. guarantees this model kit to be free from defects in both material and workmanship at date of manufacture. This warranty does not cover any components damaged by use or modification, and in no case shall Thunder Tiger's liability exceed the original purchase price of the kit. Thunder Tiger also reserves the right to change or modify this warranty without notice.

Since Thunder Tiger Corp. has no control over possible shipping damages or construction by the modeler, no liability can be assumed nor accepted for damage resulting from the use by the user or the final user-assembled product. By the act of using this user-assembled product, the user accepts all resulting liability. If the buyer is not prepared to accept this liability, he should return this kit in new and unused condition to the place of purchase for a full refund.

Introduction

All of us at Thunder Tiger want to thank you for choosing the best looking, easiest building and best flying ARF airplane available the Tiger Sport 40L. The kit features state-of-the-art engineering that provides quick and easy assembly of a strong, yet lightweight airplane that will give you an enjoyable and educational experience.

To gain the most from this airplane kit, it is important that you read the instructions thoroughly and then follow them exactly. This instruction manual has been written with a novice modelers in mind, but includes many hints and modeling tips that even experienced modeler can benefit from. We strongly suggest that you read through the construction sequence and eliminate many questions you might have if you did not read the manual prior to starting the actual construction.

The first thing you should do before beginning assembly is to check the contents of your kit against the parts list on pages 4 and 5. If any parts are missing, contact your dealer or authorised Thunder Tiger Distributors immediately for replacement.

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OTHER ITEMS REQUIRED FOR ASSEMBLY

A checklist is also provided on the next page which will make shopping for these items easier.



Radio - A4- channel radio with 4 standard servos is required. Most lower priced 4-channel radios only come with three standard servos so you may need to purchase the fourth servo separately.

ACCESSORIES



No.1263-65
Carry Master-Thunder Tiger offer a complete organizer of field equipment. All you need is included.



No.2674
12V DC Starter- Provides high torque starting power to start your outboard engine.



No.2624
Sealed Battery- 7Ah 12V Sealed Battery.



Adhesives- You will need two types of adhesives for the Tiger Trainer - Epoxy and Instant (cyanoacrylate) adhesives. We recommend that you purchase both 5-minute and 30-minute epoxy to cut down on assembly time, but you can get by with only 30-minute epoxy if time is no important. You will also need a small bottle of both "Thick" and "Thin" instant adhesive.

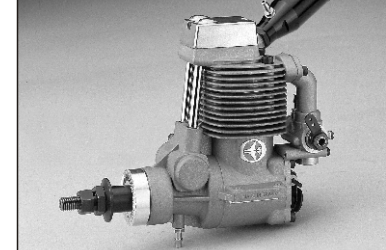


Tools-Model assembly can be much easier if the proper tools are used. Therefore we have included in our checklist to above, a complete listing of all the tools we used to assemble our prototype models. As you will notice, many household tools can be utilized during construction.

No.9041



No.9800



Engine The Thunder Tiger GP-42 and F-54S are the ideal engines for this airplane. These quiet running engines are easy to start, require no special break in periods, are very easy to maintain and will last for years.



Flight Equipment There are several "support" items that you will need to purchase in order to get your engine running and your plane in the air. These are listed at the bottom.

Flight Equipment Needed Check List

- Foam Rubber Padding for the radio
- Stick on Lead Strip for balancing the plane
- 3 or 4 Props (see engine instructions)
- 10%-15% Glow Fuel
- Fuel Pump or Bulb
- Electric Starter or "Chicken Stick"
- Glow starter
- Extra Glow Plug(s)
- Silicon Tubing

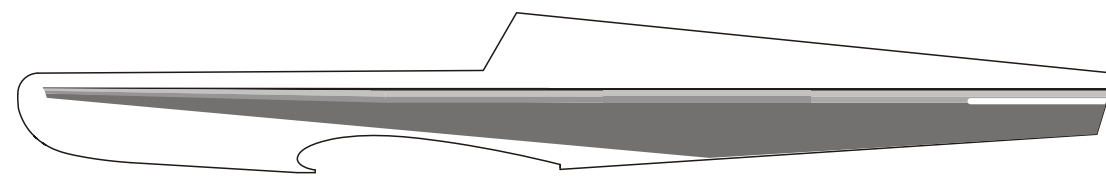
Comprehensive Items Needed Check List

- 4-Channel Radio with 4 Standard Servos
- 5-Minute Epoxy (4 ounces or so)
- 30-Minute Epoxy (4 ounces or so)
- "Thin" Instant Adhesive (1/2 ounce)
- "Thick" Instant Adhesive (1/2 ounce)
- Hobby Knife and Blades
- Epoxy Mixing Sticks and/or Brushes
- Sandpaper (150 grit)
- Masking Tape
- Rubbing Alcohol
- Paper Towels
- Ruler
- 90 Degree Triangle
- Waxed Paper
- Fine-Point, Felt-Tip Pen
- Misc. Household Tools
- Drill and Bits (1/16", 5/64", 3/32")

PARTS DRAWINGS

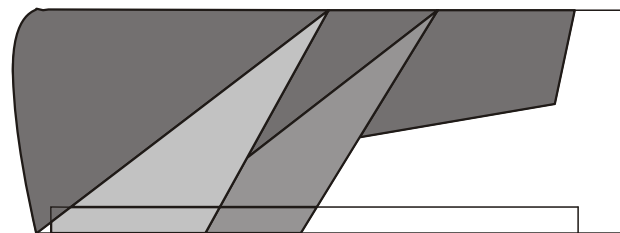
Tiger Sport

AS6626 Fuselage

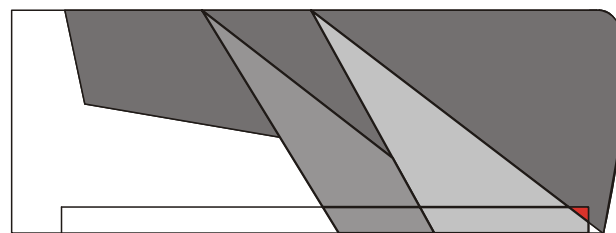


Fuselage (1)

AS6627 Main Wing



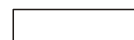
Left Wing (1)



Right Wing (1)



Aileron Servo Tray (1)



Wing Protector (1)



Wing Joiner (3)



Aileron Torque Horn (2)



4x30mm Screw (2)



M4 Washer (2)

AS6629 Pushrod Set



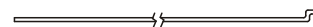
Clevis (4)



Aileron Pushrod (2)



Rudder Pushrod (1)

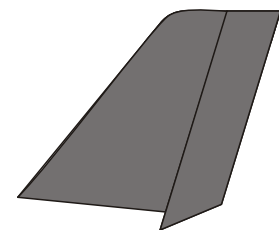


0.05" Piano Wire (2)

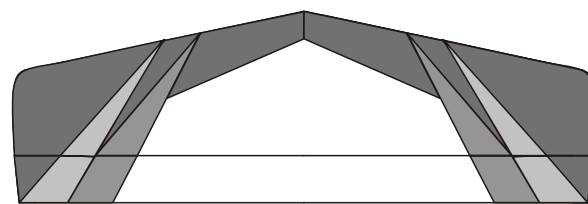


Elevator Pushrod (1)

AS6628 Tail Feathers



Fin/Rudder (1)



Stab./Elevator (1)

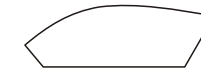


PARTS DRAWINGS

AS6630 Canopy



Cockpit (1)



Canopy (1)



2.3x8mm
Wood Screw (10)

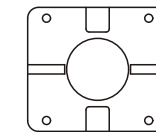
3102 Adjust Engine Mount



3.8x20mm Screw (4)



M4 Washer (4)



Engine Mount Plate (1)



3X12mmmm Screw (2)



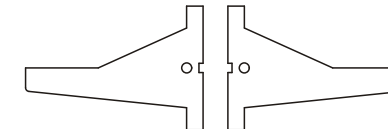
M3 Washer (2)



3x18mm
Wood Screw (4)



Nose Gear Mount (1)



Beams (L/1, R/1)

PE0009 Hardware Set



3x3mm Set Screw (2)



Allen Wrench (1)



M2 Hex Nut (2)

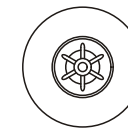


M2 Washer (2)



Push Rod
Connector (2)

3255 Wheels

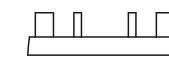


Wheel (3)

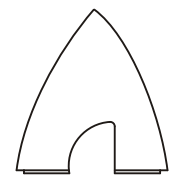
3282R Spinner



3x12mm Self
-Tapping Screw (2)



Backplate (1)



2" Spinner (1)

AS6631 Landing Gear



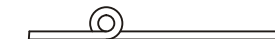
Steering Horn (1)



3x5mm Screw (1)



3x5mm Set
Screw (8)



Nose Gear (1)



Collar (8)



Mounting Strap (4)



3x10mm
Wood Screw (8)



Main Gear (2)

3150 Control Horn



2x10mm Screw (4)



Nut Plate (2)



Control Horn (2)

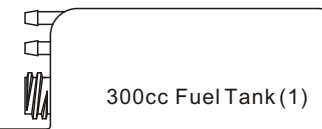
3263 Fuel Tank



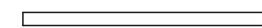
Cap (1)



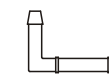
Rubber Stopper (1)



300cc Fuel Tank (1)



Silicone Tube (1)



90-degree Nipple (1)



Straight Nipple (1)



Clunk (1)

AS6632 Decal



Decal (1)

PRE-ASSEMBLY NOTES

1. If you are not an experienced R/C pilot, plan to have a fully competent pilot check your completed model and help you with your first flights. Even though we have tried to provide you with a very thorough instruction manual, R/C models are rather complicated and an experienced modeler can quickly check over your model to make sure your first flights are successful.

2. Please assemble your model exactly according to these instructions. Do not attempt to modify or change the **Tiger Sport** in any way as doing so may adversely change its flying characteristics.

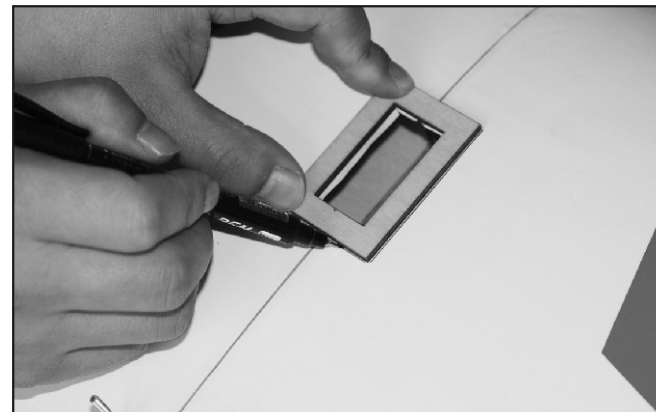
3. Before you begin, please check the entire contents of this kit against the parts drawing make sure that no parts are missing or damaged. This will also help you to become familiar with each component of your plane. If you find that any of the parts are either missing or damaged, please contact your dealer immediately for replacement.

Note: Your dealer cannot accept kits for return if construction has begun.

4. Trial fit each part before gluing it in place. Make sure you are using the correct part and that it fits well before assembling. No amount of glue can make up for a poor fitting part.

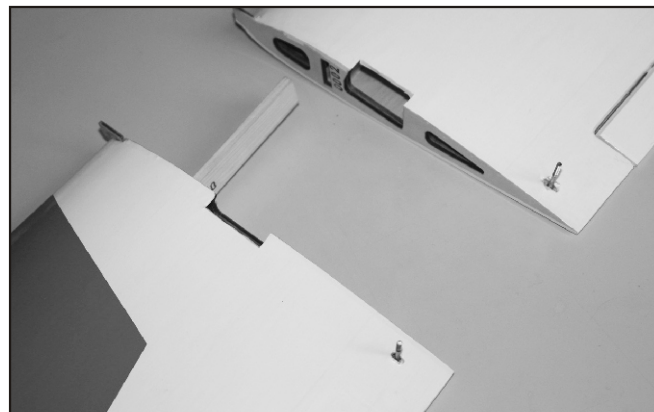


2. Lightly coat the other side of wing joiner and wing root with epoxy. Coat the other half of wing and joiner slot. Join the two wing halves and firmly press wing panels together. Wipe off any excess epoxy with a paper towel and rubbing alcohol. Make sure the two panels are accurately aligned with each other.

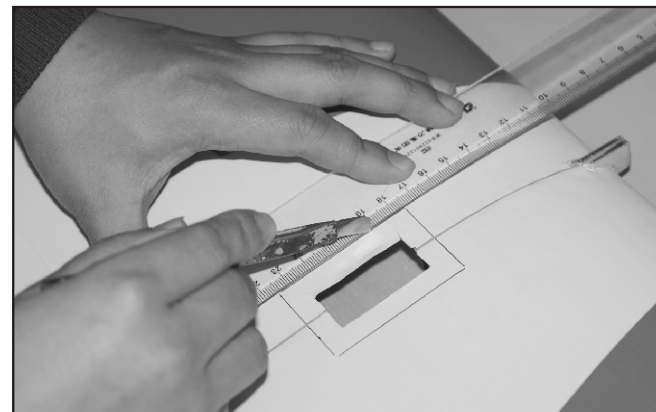


3. Locate the die-cut plywood servo tray. Use the tray as the template then draw lines against the tray.

WING ASSEMBLY



1. Before gluing the two wing halves, trial-fit the wing joiner into both wing panels. If it is not easy to slide into the wing, sand it until it will. Mix up some epoxy and coat the inside of one wing panel. Lightly coat one half of the joiner with epoxy and slide it into the wing panel. Wipe off the excess epoxy.



4. Use hobby knife to cut away the covering carefully about 1mm inside the line.



5. Use thick CA to glue the servo tray securely in place.



6. Remove the covering of wing protector glue area on the bottom wing and the covering on the mounting hole of wing protector. Use CA to glue the wing protector to the bottom surface of the wing so the mounting holes are in line with each other and it is centered over the wing joint and flush with the wing trailing edge. Trim it if necessary.

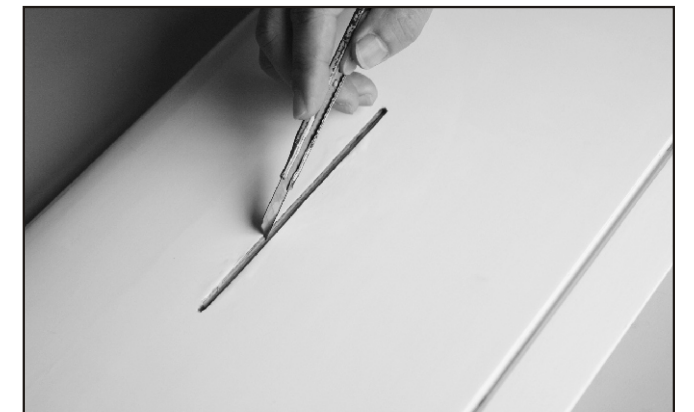


7. Remove the two ailerons from the wing and then center all CA hinges. Next apply CA instant glue to secure the hinges in place.

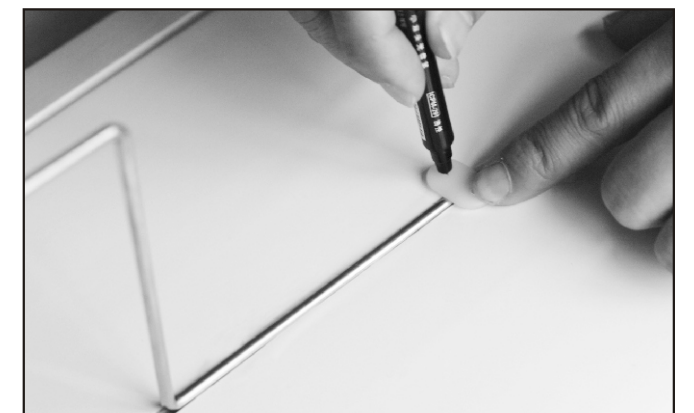


8. Apply epoxy to torque rod hole in the aileron then attach the aileron in place. Secure all hinges in place with instant glue. Make sure all hinges are glued firmly. Move the aileron up and down to make sure it moves freely. Repeat this process for the other aileron.

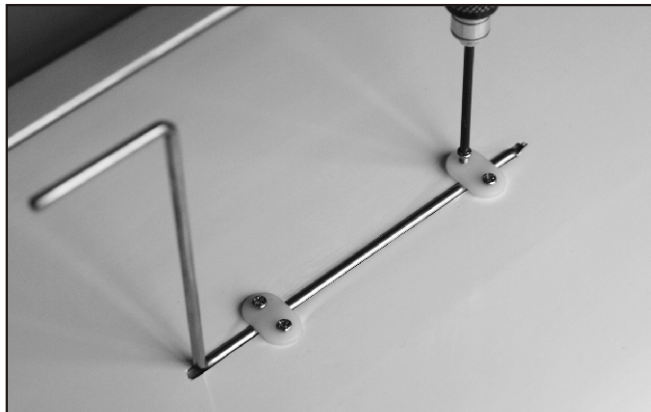
INSTALL THE LANDING GEAR



9. Locate the main landing gear slot on the bottom of the main wing. Carefully cut the covering along the slot with a hobby knife.



10. Insert the short with the vertical leg of the main landing gear wire into the hole in the wing and twist it into place until it is flush with wing surface. Place the mounting straps over the landing gear as shown then mark where to drill the mounting holes.

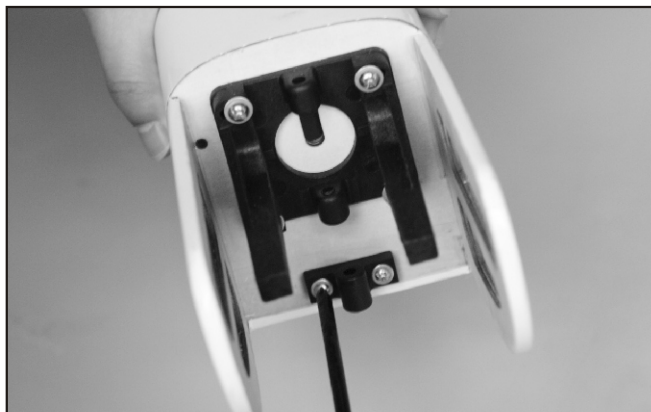


11. Remove the straps and drill 5/64" (2mm) holes at each mark. Mount the landing gear straps with four 3x10mm wood screws provided. Repeat the same process on the other wing.

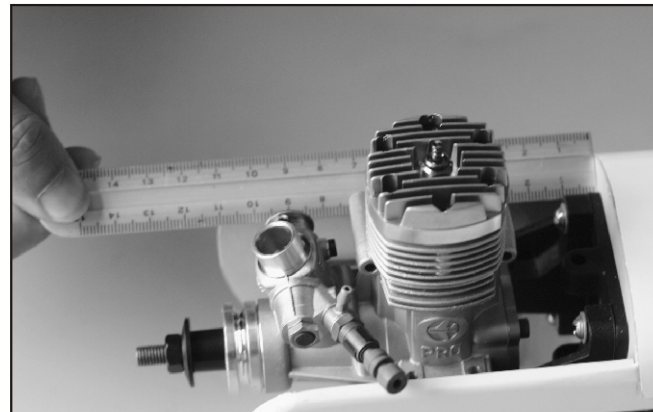


12. Install the wheel onto main gear axle then secure with the collar and 3x5mm set screw. Make sure the wheel rotates freely.

INSTALL THE ENGINE



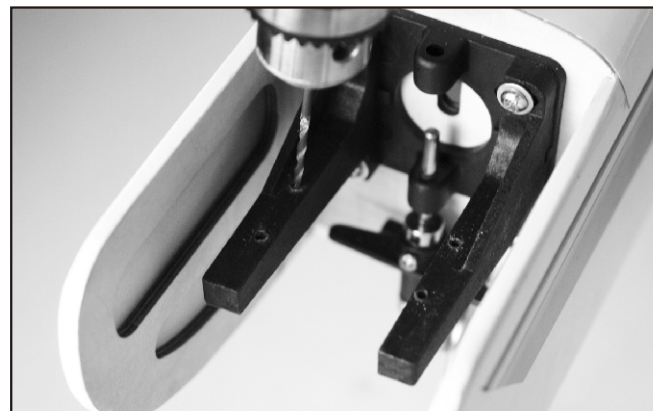
13. Attach the engine mount plate, both mounting beams and the nose gear bearing to the firewall using the 4x20mm screws provided for engine mount and 3x12mm screws for nose gear bearing. Make sure the mounting beam "WEBS" are near the outside of mount. It is not necessary to fully tighten the four engine mount screws at this time.



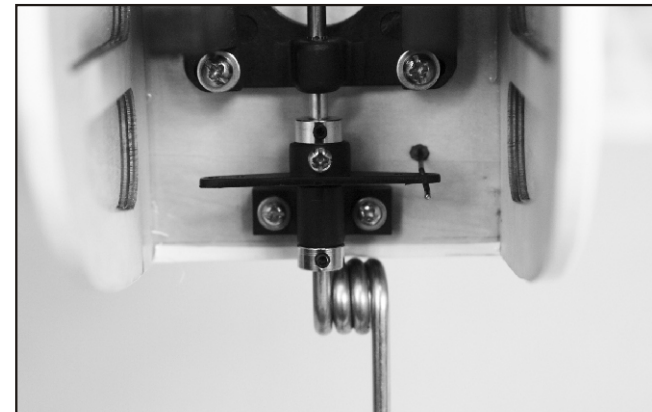
14. Set the engine on the mount and adjust the beams, if necessary, so that they are almost touching both sides of the engine crankcase and are centered in relation to the engine mount backplate. Now position the engine so that the front of the thrust washer is approximately 4-1/4" (115mm) from the firewall.



15. Use a fine-tip marker or pencil to mark where the mounting holes should be drilled. Note: It is important that the engine thrust line be aligned correctly. The thrust line should be pointing somewhere between exactly straight forward and up to two degrees to the right. A slight amount of right thrust will help the plane track straight forward during takeoff and nose-high maneuvers. Note: 2-degree of right thrust will cause the engine thrust line to pass 1-1/4" to the left to the rudder at the stab trailing edge.



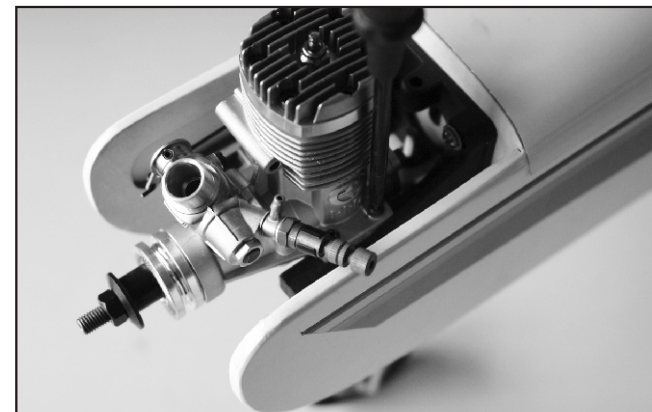
16. Remove the engine and drill a 3/32" (2.4mm) hole at each of the four marks you just made. "Break-In" the mounting holes by inserting a 3x15mm sheet metal screw into each hole without the engine in place. A drop of oil in each hole may help the screws thread in easier.



17. Install a wire to the outmost hole of steering arm then insert the other end to the plastic tube. Slide the nylon steering arm onto the top of the nose gear wire so the screw hole is facing forward when the steering arm is extending the same direction as the nose gear axle. Install the steering arm and wheel collar as photo shown. Secure the wheel collar with 3x5mm set screws and the steering arm with 3x5mm screw. Position the steering arm so it is parallel with the firewall when the nose gear is straight forward.



18. Slide the remaining wheel onto the nose gear axle and secure it with a wheel collar and a 3x5mm set screw.



19. Connect the throttle pushrod to the throttle arm by inserting the Z-bend into the outer hole of the engine throttle arm. Slide the engine into place on the mounting beams. Position the engine over the mounting holes and secure the engine to the mount using the four 3x18mm wood screws provided. Tip: A magnetic screw driver is very handy for this!

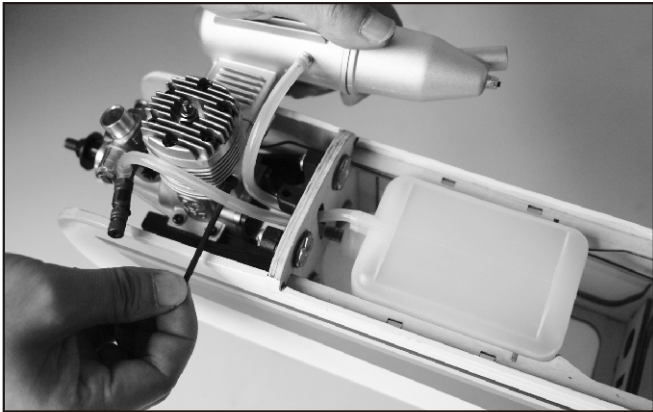


20. Remove the throttle lever then insert the Z bend end of the throttle wire to the outer hole of throttle lever. Next thread the other end of throttle pushrod into the plastic tube. Secure the lever back to the throttle. You may need to bend the pushrod so it can control the throttle lever smoothly as photo shown.

INSTALL THE FUEL TANK



21. Assemble the fuel tank by first cutting the silicone tube to 2-1/2" in length. Press the straight plastic nipple (the 90 degree nipple is not used in this plane) into the rubber stopper until the molded-in ring is against the stopper. Rubbing alcohol applied to the nipple will make it slip inside the stopper easier. Now slip the silicone tubing onto the nipple and insert the metal clunk into the other end of the tubing. Insert this assembly into the tank (clunk first) and securely tighten the threaded cap on to hold everything together.



22. Connect two fuel tubes in length of 6"(150mm). Position the fuel tank in fuselage compartment as photo shown. Install the muffler with the muffler bolts which comes with the engine. Route the fuel and vent/pressure lines to their correct fitting. The top lines (the vent/pressure line) should go to the pressure tap on the muffler. The bottom line is the fuel line and should go to the nipple on the carburetor. Cut off any excess tubing but allow enough extra tubing to keep the lines from kinking.

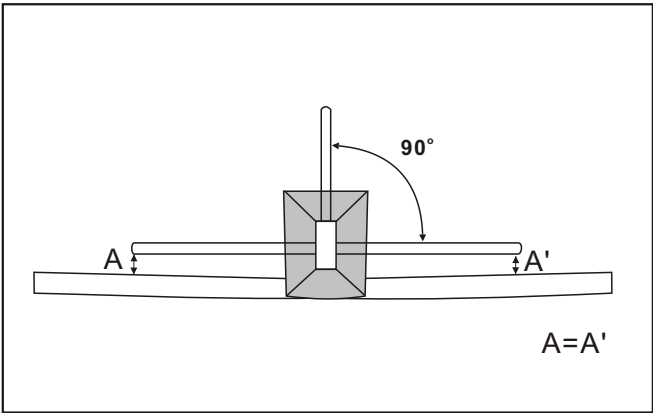
INSTALL THE TAIL FEATHERS



23. Remove the elevator and rudder and glue the hinges into the control surfaces using the same technique outlined for the ailerons.



24. Apply the rudder in the vertical tail then glue the rudder with CA instant glue. Do the same procedure on the horizontal tail(H.T.) and elevator.



25. With the main wing installed, apply a coating of 5-minute epoxy to the H.T. bed and fuse sides in the fuselage and slide the H.T. into place marking sure it is centered. Also epoxy the vertical tail in place. They are perpendicular to the each other as figure shown.



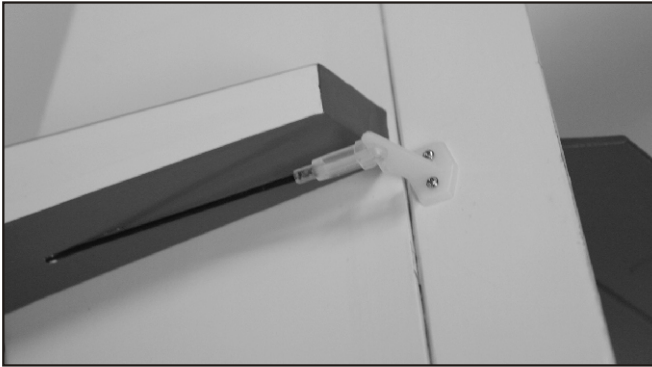
26. Locate the rudder pushrod exit slot which is at the left side of fuselage. Cut away the covering then Insert the rudder pushrod, threaded end first, through the fuselage (from the radio compartment) and out the exit slot you just made.



27. Place a control horn up to the left side of the rudder approximately 3/4" above the stab and the holes in the control horn are in line with the hinge line. It should be angled down slightly toward the pushrod exit slot. Mark where the mounting holes should be drilled and then drill 5/64"(2mm) holes at the marks. Mount the control horn to the rudder using the 2x10mm screws and the nylon nutplate. Install a clevis onto the pushrod and retaining silicone ring then snap the clevis into the third hole in the rudder control horn.

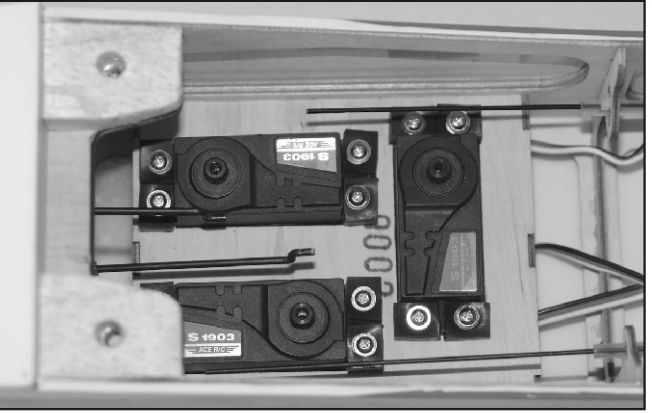


28. Same procedure for the elevator pushrod. Locate the elevator pushrod exit slot as photo shown at right fuselage, cut away the covering then insert the elevator pushrod.

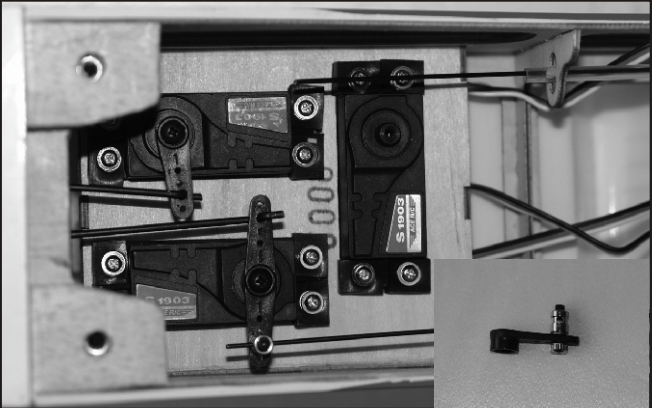


29. Do the same way on elevator control horn. It is approximately 1/8"(3mm) behind the hinge line and in line with the pushrod exit slot at the right side of fuselage. Use your fine-tip marker to mark where the mounting holes go. Drill 5/64"(2mm) holes at the marks and mount the control horn to the elevator using two 2x10mm screws and the nylon nutplate. Make sure the screws are tightened securely but do not crush the elevator.

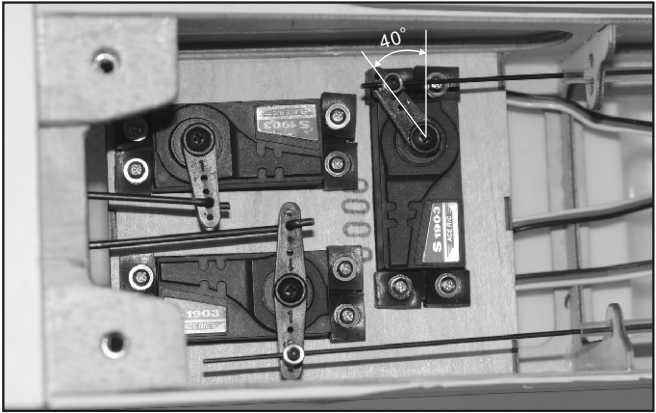
INSATALL THE RADIO



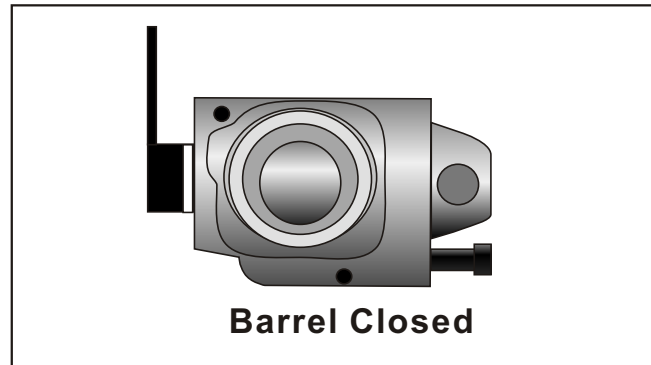
30. Get your servos ready to install by inserting the rubber grommets and brass eyelets according to the radio manufactures instructions. Position the servos in the servo tray as shown in the photo above. Secure the servos with servo mounting screws. Referring to your radio system instructions, plug the servos and the receiver switch harness and battery pack into the receiver.



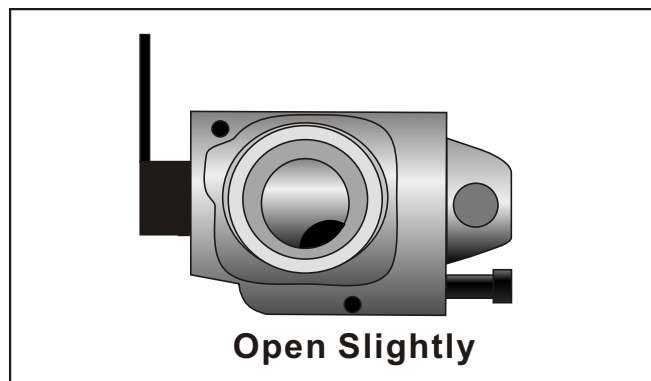
31. Insert the Z-bend end to the elevator servo horn then press it onto the elevator servo (upper left servo in the photo). You may need to adjust the elevator clevis to make sure it is in neutral position. Do the same way on Rudder servo horn. The difference is you will have to install the EZ connector first. With the rudder and rudder servo in their neutral positions, adjust the nose gear so it is pointing directly forward. Tighten the set screw on the pushrod connector to secure the nose gear in relation to the rudder. Check page 14 for the control throw initial setting. If the control surface does not move far enough, either move the pushrod out farther on the servo horn or move the clevis in farther on the control horn.



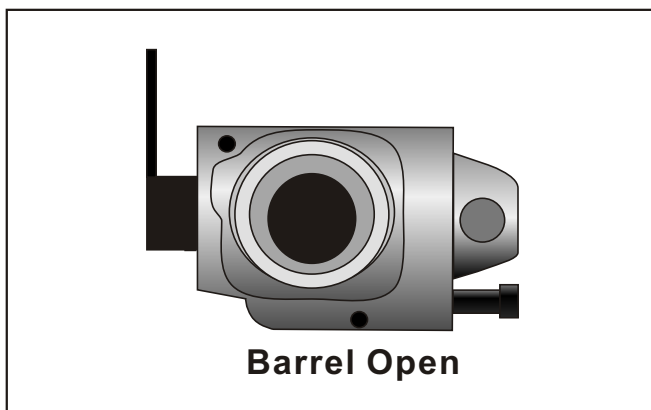
32. Turn the transmitter and receiver on. Move the throttle stick down to the idle position. Install a pushrod connector with 2mm nut in a hole approximately 3/8"(9.5mm) from the center of one of the servo horns (wheel). Slide the throttle pushrod through the pushrod connector and then press the horn onto the throttle servo so it is positioned about 40 degrees to the rear of the plane as shown in the photo. With the radio system still on, move the throttle stick up and check to make sure the pushrod connector on the throttle servo rotates toward the front of the plane. If it does not, switch the servo reversing switch on the transmitter (see radio instructions) and readjust the throttle servo horn. Move the throttle stick back down to its "idle" position.



33. Grasp the throttle pushrod, and while looking at the opening in the top of the carburetor, adjust the pushrod until the throttle barrel (inside) is all the way closed. Tighten the setscrew in the pushrod connector to secure the pushrod in that position. Cut off the excess throttle pushrod approximately 1/2" past the pushrod connector.



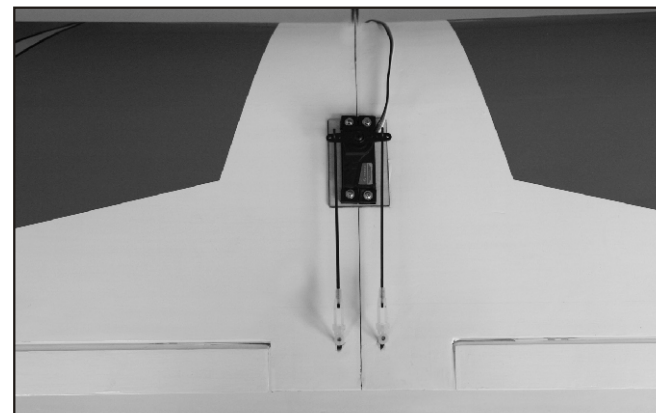
34. With the radio system still on, move the throttle trim lever up to the middle. This should open the carburetor barrel up slightly (1/32-1/16") and allow the engine to idle satisfactorily. To shut the engine off from the transmitter, simply move the throttle stick and trim lever all the way down. Now move the throttle stick up and watch the carburetor barrel. It should reach full open at the same time the stick reaches its end point. If it does not, follow the instructions below.



35. If the barrel does not open all the way, move the pushrod in one hole in the carburetor throttle arm. If the carburetor barrel reaches full open and makes the servo "hum" very early in the transmitter stick's movement, move the pushrod connector in on the servo horn (to a hole that is closer to the center of the horn).



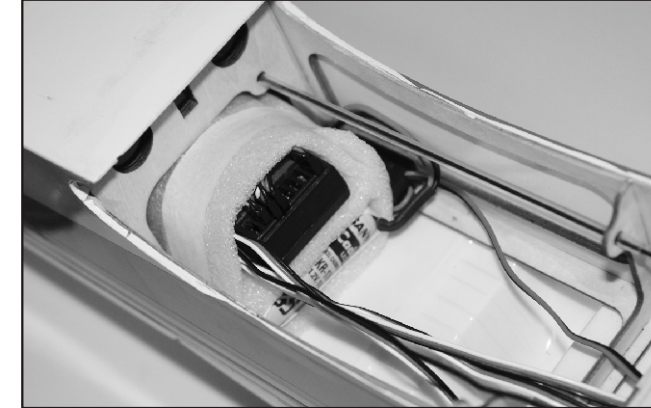
36. Screw a nylon torque rod horn onto each aileron torque rod until there is 3/4" between the hole in the horn and the surface of the wing. Install the rudder grommets that came with the aileron servo and then mount the servo into the aileron servo tray using the screws that came with the servo.



37. Secure the aileron servo in the tray then insert the aileron pushrod to the servo horn. With the servo in neutral position then secure the servo horn on the servo. Next thread the clevises on the pushrods, adjust and make sure ailerons are level with the main wing surface then snap on the clevis. Do not forget to install the retaining silicone rings when adjustment is satisfied. Suggest to use an extension wire between aileron servo and receiver.



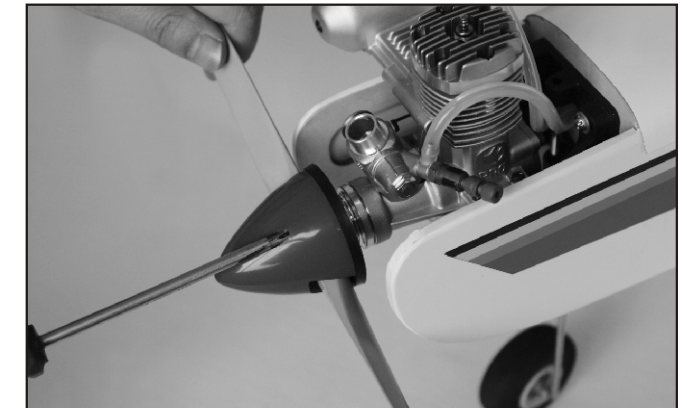
38. Locate a switch cut-out which is at left side of fuselage. Use hobby knife to cut away the covering. Using the switch cover as a template, drill two 5/64" (2mm) holes for the switch mounting screws and install the switch.



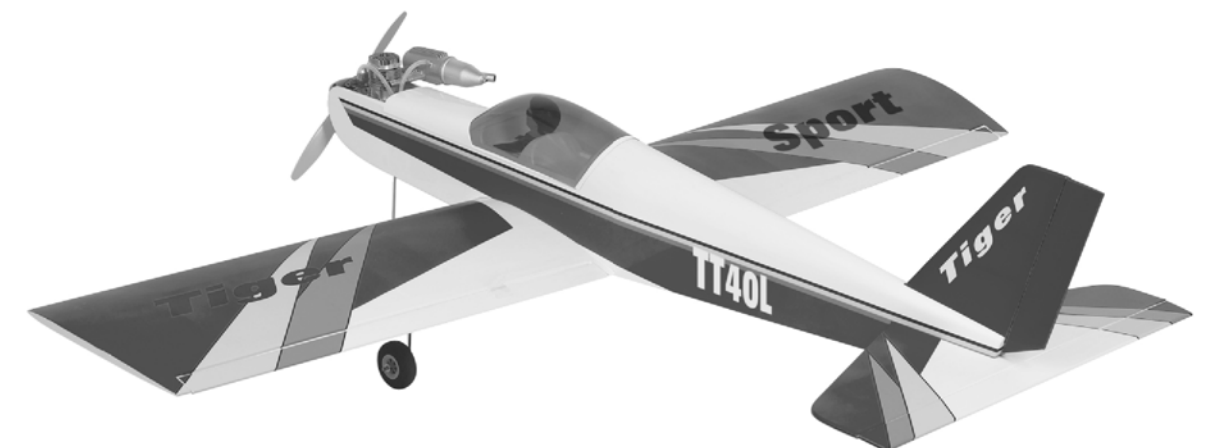
39. Well wrap the receiver and battery then position in the compartment. You may want to tie a knot in the antenna about 8" from the receiver to act as a strain relief. Then drill a small hole at the upper deck after the canopy then thread the antenna through the hole and to the top of the vertical fin with a small #10 rudder band and a T-pin. Maintain only a slight amount of tension on the antenna wire.

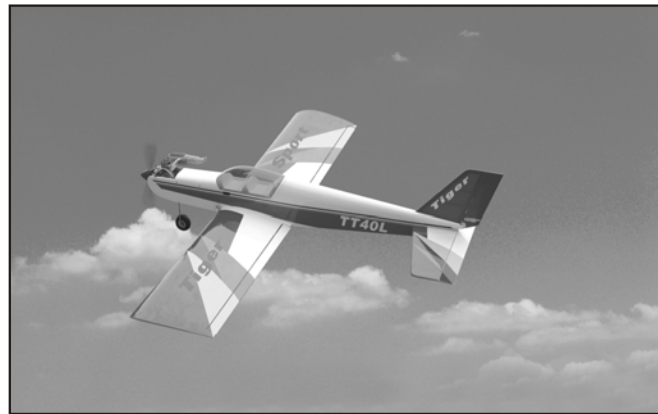


40. Carefully cut the vacuum-formed canopy along the molded-in trim lines. Take your time while doing this so you will do a neat job. Lightly sand the edges of canopy to remove any cutting nicks or unsmooth edges and trail fit them in place on the fuselage. Secure the canopy in place with six 2x10 wood screws. You may wisely to use mask tape to tape it in place then drill 1/16" (1.5mm) pilot holes about 1.5mm to the edge.



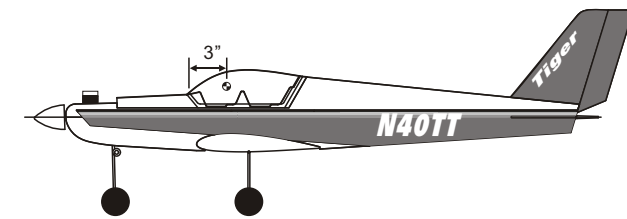
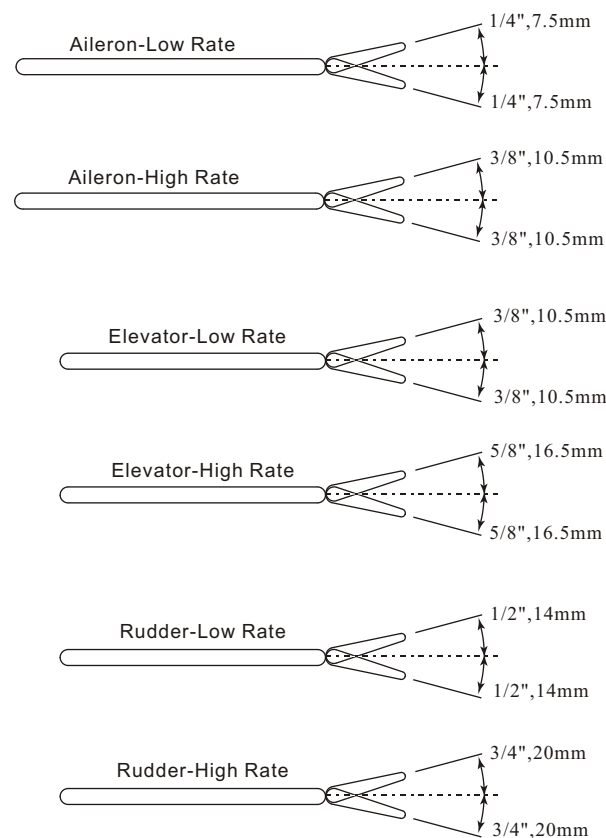
41. Correctly install the prop in front of the spinner backplate using the engine prop washer and prop nut. Note that the spinner backplate has two little posts that must be rotated up against the prop blade before the spinner will fit on. Rotate the prop counter clockwise until it is vertical when it is against the engines compression stroke. Securely tighten the prop nut using a prop wrench or correctly fitting wrench. It is not a good idea to use pliers when tightening the prop nut! Attach the spinner to the spinner backplate using the two 3x12mm self-tapping screws provided.





CONTROL THROWS

Make sure the direction of servo moves correctly. If not switch the reversing switch on the transmitter. If the control surface does not move far enough, either move the pushrod out farther on the servo horn or move the clevis in farther on the control horn. If the control surface moves too much, either move the pushrod in on the servo horn or move the clevis out farther on the control horn. Adjust the control throws as following suggested.



BALANCING YOUR PLANE

IMPORTANT- Do not attempt to fly your model before completing this every important section. A model that is not properly balanced will be unstable and could cause serious damage and/or injury.

The balance point for this model is 3" (7-8cm) behind the leading edge of the wing. Measure this distance and mark it on both sides of the fuselage right under the wing. With your model fully assembled but without fuel, pick it up with your index fingers at each of the two balance marks you made earlier. If balanced properly, the plane will hang horizontally. If the plane hangs with the tail down, then you need to add (or redistribute) some weight in the nose. Usually the plane will either balance or hang slightly tail heavy. The easiest cure for a tail-heavy plane is to move the receiver and battery forward as far as possible. If the plane hangs nose down, then you need to add some weight to the tail. Stick-on lead weights are available from your hobby dealer that will make adding weight a simple task. Once you have everything positioned as necessary, wrap your receiver and battery pack in 1/4" or 1/2" thick foam for protection.

PRE-FLIGHT

If you are an experienced pilot, some of the following text will not apply to you. Simply disregard references to "your first flights".

LOCATE A GOOD FLYING SITE

Generally, the best place to fly your model is at **AMA** (Academy of Model Aeronautics) characted club field. Your local hobby dealer can tell you if there is such a club a club in your area or write the AMA for information. It is also a good idea to join this organization before flying your model since they offer liability insurance that can protect you if your model causes damage or injury to others.

Academy of Model Aeronautics
5151 East Memorial Dr.
Muncie, In 47302-9252

If there is not a chartered club field in your community, you will need to find a large area free of obstructions, which has a smooth grass or asphalt surface to be used as a runway. For safety's sake, it should be located well away from houses, building schools, power lines and airport. If you will be flying within 6 mile of an airport, you should check with the airport manager before flying your model.

A NOTE ON BATTERIES

The batteries are the heart of your radio system. Make sure you have fully charged batteries! With rechargeable batteries, follow the manufacturers instructions to make sure the batteries are fully charged, especially the first time the radio is used.

If your radio uses dry cells, make sure your batteries are in new condition. You have a lot of money invested in this project so it is not worth the risk of using old batteries.

PRE-FLIGHT CHECKS

You should perform these checks before each flying session.

1. Check all control surfaces for possible looseness or deterioration.
2. Check all screws, rubber band, clevises, nuts and all other connectors to make sure they are securely fastened.
3. Check which radio frequencies are being used. Do not turn your radio until absolutely sure you are the only one operating on that frequency.
4. Check for proper operation of all control surfaces.
5. Check the level of charge in both the transmitter and receiver batteries before flying.
6. Range check the radio both with and without the engine running! Follow the radio manufacturer's instructions for this.

FLYING

Learning to fly a radio control aircraft can be very exiting, but it is important that you thoroughly understand the basics of flight and controls before you attempt your first flights. Therefore, we highly recommend that you seek the expertise of an experienced instructor pilot for the first few flights. He (or she) can get you in the air much more smoothly than trying everything yourself for the first time.

GETTING ORIENTED

We recommend that you find a large smooth and clear surface to practice taxiing your airplane around in before you try to take off. To taxi, you only need to use the rudder stick. At the slow speeds encountered during taxiing, the elevator and ailerons will not be effective.

The first and most important thing to remember when controlling model aircraft is: the model controls are set up to operate as if you were sitting in the cockpit of the model. This means that when you pull back (down) on the elevator stick the nose of the plane will go up. Moving the rudder stick to the right will "yaw" the plane to the right and moving the aileron stick to the right will "roll" the plane to the right. Pretty simple right? Well, not quite. Since you are really standing on the ground and not sitting in the plane, this is how the controls work when you are facing the same direction the plane is flying. The problem is that when the plane is flying towards you, the rudder and aileron controls seem reversed to the inexperienced pilot. This is the reason we recommend that you practice taxiing around in a large open area to try and get used to the control reversal.

During your first few flights, try to face the direction that the plane is flying and looking over your shoulder as needed. This makes it a little easier to pretend that your sitting in the cockpit.

FIRST FLIGHT

When you are comfortable with the controls, you should be ready for your first flight. Go over the Pre-Flight Check List one more time for good measure and taxi out the runway (hopefully with an experienced pilot by your side). Point the model directly into the wind and gradually increase the throttle to full throttle. As the model starts rolling forward it may try to turn to the left due to the engine torque. Apply enough right rudder to keep the plane rolling relatively straight into the wind. If you built the model with right thrust, this tendency may not be noticeable. As the plane picks up speed, the right rudder input can be reduced.

Once the plane reaches flying speed, it will probably try to fly by itself. If the grass seems to be impeding take off, a very slight amount of "up" elevator can be applied, but it is very important that you do not apply too much up elevator too early or the plane will stall and roll over into the ground.

As the plane becomes airborne, reduce the "up" elevator and allow the plane to pick up flying speed while gently gaining altitude. Once a safe flying speed and altitude has been obtained, feel free to turn the airplane back toward the flying field. Make all control inputs smoothly and gradually so you can see the effect they have on the plane. A small amount of "up" elevator will need to be applied to keep plane level during turns. You should be able to reduce the throttle to about 1/2 throttle for normal cruising flight which will reduce the flying speed and give you more time to think about what is going on. You will find that once airborne, you can fly the plane with only the aileron and elevator sticks. This is perfectly fine and will make it much easier for you to learn.

If the plane has a tendency to turn, roll, climb, or dive, you can adjust the transmitter trims to correct this. On your first flights, it might be a good idea to have an experienced pilot make the adjustments for you while you fly the plane.